Apr 10th, 2:35 PM - 3:35 PM

Use of Slide In-Situ Hybridization to Determine *PAX9* Gene Expression in *Moenkhausia Sanctaefilomenae*

Golibe Eze-Echesi
Illinois Wesleyan University

Brian Walter, Faculty Advisor
Illinois Wesleyan University

Poster Presentation P16

USE OF SLIDE IN-SITU HYBRIDIZATION TO DETERMINE *PAX9* GENE EXPRESSION IN *MOENKHAUSIA SANCTAEFILOMENAE*

Golibe Eze-Echesi and BrianWalter*
Biology Department, Illinois Wesleyan University

Pax9 is a paired box transcription factor with essential roles in embryonic development of the skeleton, teeth, thymus and parathyroid regions of the embryo. Our lab has previously cloned *Pax9* from the red eye tetra, *Moenkhausia sanctaefilomenae* and expression analysis during early embryonic development demonstrated that *Pax9* is expressed in the pharyngeal region of the craniofacial skeleton, vertebral somites and tail region. This project examines expression of Pax9 in larval fish using a technique known as slide in-situ hybridization. This technique allows for detection of *Pax9* transcripts in older specimens, an outcome typically unattainable via whole mount in-situ techniques. *Collagen type II alpha 1 (Col2a1)* was also examined as a control for this technique. Results showed that *Col2a1* is expressed in the basioccipital cartilage and the chondocranium cartilage while *pax9* is expressed in the tissues of the pancreas and liver of the embryo. The success of this slide in-situ technique allows for further examination of later development in fish while possibly using other genes as well.